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THE CAUSATION OF THE DISEASES OF WOMEN.

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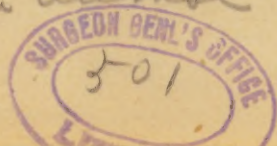
Within recent years activity among gynecologists has taken the form of improvement in the technique of operations; and as an outgrowth of the large number of operations which have been performed, the pathology of diseases of women has likewise been improved. Comparatively little has been written concerning the causation of the diseases of women, although the subject is one of great importance, in view of its bearing upon preventive medicine. Only as the causes of disease are made known to the profession at large, is it possible to take measures for their prevention. And in gynecology, especially, prevention is far better than cure.

The principal causes of the diseases of women are:

1. Imperfect development of the sexual organs.
2. Gonorrhea.
3. Septic inflammation following child-birth.
4. Lacerations due to child-birth.
5. Miscellaneous causes, including constipation, erroneous habits of life, and errors of dress.

1.—*Imperfect Development of the Sexual Organs.*—
The influence of imperfect development of the sexual

presented by the author



organs as a cause of diseases of women, cannot well be over-estimated. At the present time not so much is said of the influence of this factor in producing disease, because it has been more or less lost sight of since tubal and ovarian pathology has so much occupied the attention of gynecologists. The experience of every observant practitioner demonstrates the prevalence of imperfect development, and also its influence in producing various diseases of women. As a rule, when the development of the sexual organs is arrested, the development of the body, as a whole, is also interfered with. Such women, almost without exception, belong to the class of neurotics, and they are liable to all manner of neuroses, including, especially, chorea, headache and neuralgia. The most striking signs of this condition are the late development of puberty, the imperfect and painful character of menstruation, and the fact that the history of semi-invalidism, almost without exception, can be obtained. Puberty is often delayed even as long as the eighteenth or nineteenth year or longer. Menstruation is always painful. The pain belongs to the type of so-called ovarian dysmenorrhea; that is to say, it begins one or several days, or even a week, before the menstrual flow, and is felt especially in the ovarian regions. Reflex neuroses are common accompaniments, especially headache, disordered digestion, or even sick headache. Uterine dysmenorrhea, due to the undeveloped condition of the uterus (especially of the cervix) which is in general sharply anteflexed, is frequently present. This is indicated by its paroxysmal character, and by the fact that, as a rule, it is much less marked after the flow has become fully established.

The reason why the development of the sexual organs of girls becomes arrested is not absolutely demonstrated. The influence of modern education as a cause has been much dwelt upon, and the evidence in support of this theory is very strong. The effect of the crowded courses and frequent examina-

tions in our schools in developing the nervous system at the expense of the rest of the body, and later in breaking down the tone of the nervous system through over-work, has been abundantly proved. The emotional side of the female character likewise is stimulated. As a result of these conditions the digestion of growing girls is apt to become deranged, and their sleep likewise to be disturbed. As a further consequence anemia and depraved nutrition follow, aggravating the neurotic conditions already engendered and thus completing the vicious circle. When such girls arrive at the age of puberty, especially if at the time they are being crowded with a multiplicity of studies to enable them to enter a fashionable finishing school, the demands upon the nervous system to enable them to accomplish their tasks are such that the processes which are necessary to bring about the proper development of the sexual organs are not brought into play—enough vital force is not left over to accomplish this result. The testimony of urban practitioners is unanimous upon this point, hence it must be considered as established that too great mental occupation directly hinders the development of the sexual organs. And not only that, but at the same time breaks down the tone of the general nervous system.

Other causes, however, must be considered. Some of the most marked cases of arrested development of the sexual organs which have come under my notice have been among the poor. These girls not only had not been forced at school, but in not a few cases they had never been to school. In some of them it seemed to me that the cause was too early and too laborious work, especially in mills. I have had numerous patients among mill operatives who had gone to work as children in mills, and who had worked full time during the years when the greatest development takes place. In these girls it was probably a lack of fresh air, of out-of-door exercise and of an abundance of nutritious food, together with too much work that

was at the bottom of the difficulty. A curious class of cases but little understood is that in which extreme corpulency is present. I have seen numerous cases in which menstruation was tardily established, never perfectly performed, and which ceased or became scanty and irregular between the twentieth and thirtieth years. Whether the imperfect character and early cessation of menstruation was due to obesity, or whether the obesity was due to the absence of menstruation I have never been able to satisfy myself. However, my own experience fully confirms the current opinion that obesity bears a certain relation to scanty and imperfect menstruation. The development of the sexual system in women is one of the mysteries of nature and the exact forces which bring it about will probably never be perfectly known, but it is rational to believe that the existence of good health about the time of puberty has much to do with its proper development. The care of growing girls, particularly between the age of nine and sixteen years, is a subject of the utmost importance, and the profession has no more urgent duty than to instruct mothers concerning the importance of the proper care of girls during that period. Girls who are inclined to be neurotic, and whose digestion and nutrition are at fault should not be treated in the same way as their stronger and more phlegmatic sisters. Their duties at school should be lightened, they should be more in the open air, and any functional disease which may exist should be cured. In this way some surplus vital force may be stored up to be called upon when necessary in the development of the sexual system. Also, when menstruation fails to appear at its accustomed time special care is necessary. It is at this time that therapeutics has the best opportunity to influence the patient. The health of all such girls should be carefully inquired into and all indications for treatment should be met. In particular, the administration of iron, arsenic and strychnia, and out-of-door exercise are to be

commended. Such cases should not be lost sight of until menstruation is fully and perfectly established. I feel confident that if this plan be carried out, there will be fewer cases of dysmenorrhea and sterility upon the one hand, and of laceration of the cervix and perineum upon the other, and also fewer cases of chronic ovaritis and ovarian cystomata. I have purposely not made mention of the higher grades of imperfect development, and of the cases in which one or more of the sexual organs are entirely absent. These cases belong to a different category, from the standpoint of practical medicine.

2. *Gonorrhea*.—The fact that gonorrhea is a disease of women has, of course, been known for centuries, but a full knowledge of the course and results of the disease is a matter of the immediate present. Bernutz was the first author who had a proper conception of the disease, (about 1850). His knowledge was acquired as most of the exact knowledge of medicine has been acquired, by the postmortem study of cases. As physician to the Lourcine hospital, where he had a large venereal service, he had ample opportunity to study the disease. In his analysis of the ninety-nine cases of pelvic-peritonitis, upon which he bases his exposition of the subject, he gives as a cause of the condition, gonorrhea in twenty-eight cases.

Forty-three are considered to be puerperal, twenty menstrual and eight traumatic. Of the remaining twenty-eight non-puerperal cases there can be no question, when reading his report in the light of modern knowledge that almost all of them were gonorrheal. Bernutz, who was a very careful and accurate observer, cautions his readers against drawing the conclusion that so large a proportion of cases of pelvi-peritonitis (inflamed tubes and ovaries with secondary peritonitis) are gonorrheal in origin. He states that in his opinion the reason why this proportion existed in his cases was owing to the character of the hospital in which they were ob-

served. Bernutz fully recognized the fact that gonorrhea not only involves the vulva, urethra, vagina and womb, but also the Fallopian tubes, the ovaries and the peritoneum. He reports numerous cases amply demonstrating these facts and treats the entire subject in a most intelligent manner. His observations, however, failed to make much impression upon the profession and it was not until Noeggerath, in 1873, published his paper on "Latent Gonorrhea in the Female Sex" that attention was called to the very serious ravages of gonorrhea in women. Prior to that time gonorrhea was looked upon as a mere trifling vulvo-vaginitis, of importance principally because of the fact that the disease might be communicated to men. The views of Noeggerath encountered much opposition and their spirit was not fully accepted until their truth was demonstrated by the work of the modern abdominal surgeons. It is now fully established that gonorrhea is one of the most important causes of uterine, tubal, ovarian and peritoneal inflammation. Exactly what percentage of cases of inflammation of the uterine appendages is due to gonorrhea has not been determined, although unquestionably the percentage is not inconsiderable. The opinions and experience of surgeons differ widely with reference to this question; and there is good reason to believe that the percentage depends upon the character of the community in which the surgeon resides. Urban communities containing large numbers of the poor and the vicious, and of the rich and immoral, undoubtedly have a higher percentage of cases due to gonorrhea than rural communities having a more decent population.

3. *Septic Inflammation following Child-birth.*—The results of septic infection in child-bed have been so prominently dwelt upon since the days of Oliver Wendell Holmes and Semmelweis that one can not, at this time, hope to offer any new ideas upon the subject. Increasing experience only serves to demonstrate the serious results of this accident. It is

unnecessary to refer here to fatal puerperal septicemia. We shall concern ourselves only with those cases which have not had a rapidly fatal termination, and which concern the gynecologist as much or more than the obstetrician. Septic vaginitis, endometritis and metritis are well-known forms of puerperal inflammation. They frequently persist and require treatment after the puerperal period. Aside from the rapidly fatal cases, the most serious result of septic infection during labor is the spread of the septic inflammation to the uterine appendages, giving rise to salpingitis, ovaritis and peritonitis. This condition probably at times ends in perfect recovery. More usually it results, either in chronic inflammation of the appendages with the formation of adhesions to the neighboring structures, or in collections of fluid—serum, blood or pus—in the tubes or in the ovaries. The relative frequency of puerperal septic inflammation and of gonorrhea as the cause of inflammation in the uterine appendages is a mooted point. Most surgeons believe that the puerperal inflammation is by far the more frequent cause; others hold that gonorrhea is the more frequent cause, and they point out that inflammation of the uterine appendages following labor need not necessarily be puerperal in origin, because the puerperal inflammation itself may have been set up by a preëxisting gonorrhea. That this last claim is to a certain extent a valid one my own experience tends to show; but many accurate observations must yet be made before it can be determined with what frequency existing gonorrhea is the cause of inflammation in child-bed.

Another, but far less frequent result of puerperal infection, is acute inflammation or abscess of the broad ligaments—acute puerperal cellulitis and true pelvic abscess. Inflammation of the connective tissue of the broad ligaments formerly was believed to be the common form of puerperal inflammation outside of the womb; but when abdominal surgeons

proved that what had been called *chronic cellulitis* in the *non-puerperal* state was in reality diseased uterine appendages, the tendency was to take extreme ground and to deny the existence of *acute puerperal cellulitis* and true pelvic abscess.

In addition to the varieties of puerperal inflammation described we have cases of phlebitis, and its associated condition, *phlegmasia alba dolens*.

As already remarked, it is not positively known what percentage of cases of tubo-ovarian inflammation is due to puerperal septic inflammation; but it is known that the percentage is a high one. Gonorrhea and puerperal sepsis together cause 95 per cent. of all cases of tubo-ovarian inflammation. The importance of this fact from the standpoint of preventive medicine can not be over-estimated. And the same is true of the curative treatment of gonorrhea and puerperal septicemia. If both these conditions were treated early and vigorously, and if the treatment were continued for a long time, until the gonorrhea was cured, and the results of the puerperal sepsis removed so far as possible, there would be far fewer cases of chronic pelvic inflammation. Under the present methods of practice it is the disease which the gynecologist is called upon most frequently to treat.

4. *Lacerations due to Child-birth*.—Lacerations due to child-birth constitute an important class of the diseases of women. The relations of lacerations of the cervix uteri to sub-involution of the pelvic organs, especially of the womb, and to endometritis, has been made known through the labors of American gynecologists, especially Dr. Emmet. For a time after the observations of Dr. Emmet were made public there was a tendency to magnify the importance of lacerations of the cervix, and succeeding that, a reactionary tendency to make light of the importance of this lesion, but the conclusion of the entire profession, based upon experience and common sense, practically supports Dr. Emmet in his

original teachings concerning this lesion. It is not my purpose here to discuss the causes of lacerations of the cervix further than to say that my own experience is in accord with those who believe that many cases of lacerations of the cervix are directly due to the fact that the pregnancy has taken place in an imperfectly developed womb—the imperfect development being most marked in the cervix. Such a womb and cervix are not fitted to pass through the ordeal of labor unscarred. The cervix has to bear the brunt of the battle, and as a result of its imperfect development lacerates instead of dilating. This fact emphasizes the great importance of securing a full development of the womb.

Lacerations of the pelvic floor are of even more importance than lacerations of the cervix uteri. The giving way of the pelvic floor (the laceration of the levator ani and the pelvic fascia) is the foundation of almost every form of prolapse of the pelvic viscera. Cystocele, rectocele and prolapsus uteri are due almost without exception to lacerations of the pelvic floor.

5. *Miscellaneous Causes.*—Constipation plays an important rôle in the causation of some of the diseases of women. The fact that women very frequently suffer from constipation is well known. This is as true of young women as it is of their older sisters. Probably the principal reason for this is the in-door, rather inactive life which women lead; but an important factor is the habit which so many women form of having no regular time to have the bowels move. In this way the rectum is taught to tolerate the presence of feces which accumulate until the occurrence of headache, loss of appetite, malaise (symptoms of fecal absorption), force the patient to secure a stool, either by the use of an enema or by taking a purge. This over-filling of the rectum interferes with the pelvic circulation and in this way promotes congestion of the pelvic viscera. This habit predisposes to the development of hemorrhoids,

also to uterine and ovarian congestion. It is usually assigned as one of the causes of retroversion of the womb, and of prolapse of the ovaries. I believe that it does predispose to both of these conditions. The full rectum can displace the cervix forward, and straining at stool, especially if the bladder chance to be full, can topple the womb over backward. Relaxation and loss of tone of the pelvic tissues, due to congestion, also predispose to retro-displacement of the womb and to prolapse of the ovaries.

Constipation aggravates the symptoms due to every variety of pelvic disease. This is brought about, partly by inducing pelvic congestion, and partly through the deterioration of the general health produced by fecal absorption and the contamination of the blood, and by the loss of appetite and disordered digestion.

ERRONEOUS HABITS OF LIVING.

Erroneous habits of living favor the development of pelvic disease just as they favor the development of disease in other parts of the body. Pelvic disease may be produced, either by habits of indolence inducing a sluggish circulation and an atonic condition of the tissues, especially of the muscular system; or by habits of luxury, which usually involve the preceding, with the addition of irregular hours, more or less dissipation and the over-loading of the stomach with rich foods and wines; or on the other hand by too laborious and continuous work, over-taxing the strength of the individual, and by greatly increasing the intra-abdominal pressure, tending to displace downward the pelvic viscera—and in this way, at times, even in little girls producing complete prolapse of the womb.

ERRORS IN DRESS.

Errors in dress is a subject of large importance, but it is only possible here to touch upon it. The principal error in woman's dress, as arranged at present, is, that by it the waist is unduly constricted.

As this is brought about by means of the corset, which not only constricts the waist, but which also constitutes a brace confining the lower part of the chest, and also the abdomen, several results are induced. The first and perhaps the most important is the interference with respiration. It has been conclusively shown that the type of breathing of the female, normally, is the same as that of the male—diaphragmatic or abdominal, but owing to the pressure of the corset the excursions of the diaphragm are limited, and the same is true of the lower ribs and of the abdominal wall. The result is that the use of the corset has changed the type of woman's breathing to the costal, or really the upper costal. The principle of accommodation doubtless largely diminishes the interference with the normal circulation which this alteration in the normal type of breathing would otherwise produce. The second result of this method of dress is to make continuous pressure upon the abdominal vessels, and thus to interfere with the return circulation from the lower half of the body—promoting congestions in this region, which includes the pelvis. The third result is the displacement downward of the abdominal viscera, causing a protrusion of the lower anterior abdominal wall, and forcing the intestines down upon the pelvic viscera. In this way the displacement of the pelvic viscera is favored. The effect of the pressure of the corset upon the muscles of the middle portion of the trunk, and the support which the corset gives in holding the trunk upright (thus doing away with the necessity for muscular action in supporting the trunk), is to bring about the partial atrophy (or at least an atonic condition) of these muscles. The loss of normal tone in the abdominal muscles changes entirely the normal condition of intra-abdominal pressure, (favoring the displacement of the abdominal viscera), and takes away from the return circulation of blood in the abdomen

one factor which normally is of great assistance in forcing the blood onward toward the heart.

Another error in the present mode of woman's dress is the manner in which the skirts are fastened to the body. This is by means of bands fastened about the waist. The effect of this method is that the entire weight of the skirts hangs upon the abdomen and hips. In women having a somewhat protuberant abdomen, practically the entire weight of the skirts is supported by the abdomen. This adds to the intra-abdominal pressure and tends to force the contents of the abdomen into the pelvis. A further bad effect is that the waist band of the skirts compresses the trunk at the smallest part of the waist and adds to the ill effects of the pressure of the corset itself.

It has not been our purpose here to discuss the subject of practical methods of dress reform, but merely to point out the ill consequences of the present mode. The principles which underlie dress reform are: 1, that the waist shall not be unduly constricted so that the circulation and respiration shall not be impeded. 2, that the trunk shall not be encased in a brace, but that the muscles of the trunk shall be called upon to perform their normal function, which includes the sustaining of the trunk upon the pelvis and legs, and their proper part in the work of respiration, and in assisting in the return circulation of the blood. 3, that the weight of the clothing shall be supported upon the shoulders. These principles are unquestionably sound, and happily, methods of dress based upon them have been so perfected that at the present time women can dress in accordance therewith and not sacrifice either taste or beauty.

Practical Conclusions.—My object in presenting this paper is not to offer anything new, but to cover in a systematic way the causes of the diseases of women in order to show their limited character, and that these causes are principally of a preventable

character. If I have succeeded in doing this, it follows that if proper attention were paid by the profession to the prevention of the causes which produce the diseases of women that these diseases could be very greatly restricted.

If proper attention were given to growing girls, especially about the time of puberty, and a more normal development of the sexual organs secured; if gonorrhea were more vigorously treated, and if the subjects of that disease were kept under observation until all abnormal discharges were arrested, and proper instruction concerning the abstention from sexual intercourse were given; if antiseptic midwifery were faithfully and efficiently practiced; if lacerations of the cervix and perineum were early repaired, and if full instructions concerning the ill effects of constipation, improper dress and erroneous habits of living were given, the prevalence of the diseases peculiar to women would be very greatly restricted. I believe that this is to be the next great advance in diseases of women. Gynecologists must bring home to the general practitioner the fact that the diseases of women are largely preventable and make him feel his responsibilities, both as to their production after present methods of practice, and as to the possibilities of their prevention after improved methods. When the family physician realizes that it lies within his power very largely to prevent disease among the women of the families committed to his care, his sense of moral obligation will spur him on to do his full duty in this matter. When that day comes, the universal prevalence of disease among women will cease to be a reproach to preventive medicine.

DR. HOWARD A. KELLY of Baltimore, congratulated Dr. Noble in bringing such an important subject before the Section in a new way. He had given the subject of preventive disease in women much thought, and believed a book could well be written upon it. In many instances the

cause of imperfect development of the genitals and of the general system was to be traced back of the child to the poorly nourished and ill condition of the mother before and after conception. Gonorrhea in children was not an uncommon first cause of disease in women. Tuberculosis had been found as the cause in one out of five of his operative cases of pelvic inflammation. We can not attribute too much importance to the accidents of labor.

DR. HENRY P. NEWMAN of Chicago, said that prophylaxis should have its day, and he believed it would. When we consider such a paper as has been read, we can see how easy it is to institute prophylaxis and thus prevent a very large per cent. of prevalent diseases among women.

DR. E. P. DAVIS of Philadelphia, said among the most intractable diseases of women was that of neuralgia—neuralgias not only dependent upon mal-nutrition or anemia, but especially those of the pelvic viscera as seen by the obstetrician and gynecologist. Methods of dress reform, the avoidance of constipation during the pregnant condition, as mentioned in the paper, would prevent a certain number of cases of severe pelvic neuralgia, notably those of the sciatic type.

DR. JOSEPH PRICE of Philadelphia, had found vaginitis in infancy not an uncommon cause. Gonorrhea was now a frequent source of pelvic inflammation. In alluding to menstrual disorders, he was satisfied many of them began in infancy. The general attention of the profession to vulvar and vaginal discharges of infancy was neglected. Referring to the favorable statistics of some lying-in institutions regarding the mortality from puerperal sepsis, he said they did include the mortality from other causes. In an institution with which he was connected, not a mother had been lost among 1,300 births.

DR. C. R. REED of Middleport, Ohio, thought that an infantile uterus was probably one of the most important causes of illness and feebleness in the women of our country; that deranged or vicious menstruation grew out of imperfectly developed sexual organs. The most difficult cases he had to manage and which gave him the least satisfaction and benefit to the patient, were in those young

women who had undeveloped uteri and ovaries. The doctor made a mistake in telling the mother it would be all right after marriage; for unless measures were taken for better development, the marriage would be sterile—the patient would suffer.

DR. J. HENRY CARSTENS of Detroit, Mich., did not believe that gonorrhea was so common a cause of pelvic inflammation as some practitioners. He thought a more frequent cause for the troubles in some women was the vicious habit of producing abortion, resulting in chronic inflammation of the uterus, and was a cause of more pelvic inflammation than all of the other causes put together. The profession should endeavor to prevent the vicious habit of women producing abortion with dirty darning needles, etc.

DR. J. W. HOFF of Pomeroy, Ohio, desired to enter his protest against the statement of so many girls having had gonorrhea. He had practiced for forty-seven years, and had not seen half a dozen cases in daughters. Perhaps it was not so common as it had been represented in Philadelphia.

DR. JOSEPH HOFFMAN of Philadelphia, directed attention to affections of the bladder incidental to parturition and to the puerperal state, brought on by constipation and dislocation of the uterus, etc. Of all the troubles women were heir to, chronic cystitis was the one with which they are most frequently affected. He thought that many of the troubles with which women are afflicted, such as displacements, retroflexions, subinvolution, etc., could be avoided by insisting that the patient remain in bed for two weeks after child-bearing. As to the occurrence of gonorrhea in children, he had rarely seen it. He had often found tuberculosis in the pelvis, and he believed it frequently followed pus collections, if it was not caused thereby.

DR. E. H. N. SELL of New York city, had seen gonorrhea in children, and even in a minister's family from a supposed moral country district. He would not mention the State. In one case the disease extended so as to involve both bladder and kidney.

DR. LEWIS S. MCMURTRY of Louisville, Ky., said it had been demonstrated by modern pelvic surgeons beyond question, that the physician in his efforts to relieve functional

disorders of the pelvic organs in women very often unnecessarily inflicts upon them a disease of far more gravity than the one to which his treatment is directed. To illustrate: There is not an operator present who has not seen intrapelvic inflammation result from forcible dilatation of the cervix. He is also perfectly satisfied that serious tubovarian diseases are the result of the routine use of caustics upon the cervix—a practice still in vogue by some practitioners.

DR. NOBLE, in closing, said he felt satisfied he had met with tuberculosis in several of his cases, as mentioned by the preceding speakers, although no microscopical examinations had been made. With reference to the relation of imperfect development of the uterus to the accidents of labor, he does not wish to be understood as saying that all lacerations of the cervix are due to this condition. In many cases they are due to bad obstetrics. The cause of a good deal of mischief is a very large baby coming through a small pelvis.